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REMARKS

Claims 1-7 and 10-25 were pending in the patent application. By this amendment, Applicants cancel Claim 16.

The Examiner has rejected Claims 1-5, 10, 12-16, and 20-25 under 35 USC 102(b) as anticipated by Kirk; and has rejected Claims 6-7, 11, and 17-19 under 35 USC 103 as being unpatentable over Kirk in view of Duggan. For the reasons set forth below, Applicants believe that the claims as amended are patentable over the cited art.

The present invention teaches a system, method, and program storage device for providing variable frequency logging of activities in a distributed computing system comprising a plurality of computing locations. The distributed computing system has at least one message logger for monitoring messages and for generating message logger output and has at least one selectively-enabled trace logger. Logging is enabled selectively, in at least one trace logger, in response to message logger output regarding detection of a message level error indicative of some malfunction at one of the computing locations. When a trigger event, comprising a message level error, is detected at one of the computing locations, the location of the error

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is determined and logging of system activities by at least one trace logger is commenced for at least that determined computing location until a stop event is detected (Claims 1, 12, and 21, and those claims which depend therefrom). Filtering of the logged system activities can be undertaken to determine corrective action (Claims 2-3, 13, and 24). In addition, mapping and tracing can be implemented to identify which computing locations are affected by the error, and logging can be commenced at the identified locations (Claims 5-7, 17-19). The amount of logging, or logging frequency, can be adjusted (Claims 4-5 and 20), the logging and tracing configuration for the entire distributed computing system can be dynamically adjusted (see: page 11, lines 1-2 and Claims 23-25), the adjustments can be gradually implemented (see: page 17, lines 3-5 and Claim 22), and, the adjustments can be based on retrieved predefined temporary logging information (Claims 10 and 11).

The Kirk patent provides a global positioning system comprising a satellite or other apparatus for taking position readings and a receiving location for receiving readings transmitted from the reading apparatus. Under the Kirk system and method, readings are taken continually and are buffered in a temporary buffer. The readings are read

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out of the temporary buffer and are stored in permanent storage at the receiving location under two circumstances, specifically (i) when the temporary buffer is full or (ii) when a trigger event has been detected. The sampling for storage is done at different predetermined rates depending upon the circumstances. When the temporary buffer is full and an event has not been detected, as detailed in Kirk with reference to Figs. 3 and 4, "if the desired logging rate is 10Hz and the standard logging rate is 1Hz...then one in every ten samples from the temporary buffer is stored in permanent storage." However, if a trigger event has been detected, "subsequent satellite date received (step 460) is logged to permanent storage at the desired logging rate (step 470)". Kirk may also define a window, before and after the event, during which the collected information is stored at the desired rate. Accordingly, the Kirk system is continually collecting the readings for each satellite and buffering in the temporary buffer. Kirk is also regularly storing the collected information to permanent storage at a first rate, but adjusts the rate of permanent storage when an error condition is detected, specifically due to loss of signal contact between the apparatus taking the readings and the receiving/logging location.

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In distinguishing the presently-claimed invention from the Kirk system, Applicants reiterate that the Kirk system is not comprised of a plurality of computing locations. Kirk has reading/collecting apparatus at each satellite and one receiving location, the latter of which may include computing components. Kirk does not have multiple computing locations. In response to that argument, the Examiner cited the teachings found in Kirk at Col. 1, lines 13-24, concluding that Kirk discloses multiple "receivers [which] calculate position". Applicants respectfully assert, however, that Kirk teaches that any single receiver collects readings from multiple satellites. Kirk does not teach multiple receivers.

Applicants next reiterate that a detected event under Kirk is a loss of communication between the reading apparatus and the receiving location. A detected event as claimed for the present invention is a message level error indicative of an error at one of the plurality of computing locations. The Examiner stated that, under Kirk, "when the radio link...becomes unavailable, a message is preferable (sic) sent from the rover", after which the storing of collected readings from the temporary buffer is conducted at the desired rate. Kirk teaches that a message is sent from

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the rover. Sending a message about a trigger event is not the same as or suggestive of a message-level error indicative of an error at one of the plurality of computing locations. Kirk neither teaches nor suggests message-level errors. Rather, Kirk teaches communication errors (i.e., loss of radio link). Applicants further note that Kirk does not disclose how a message is sent from the rover when the radio link is unavailable.

The independent claims, as amended, additionally recite the step and means for determining the computing location at which an error occurred. There is nothing in the Kirk patent which teaches or suggests determining the location of an event/error at a computing location. Kirk states, as discussed above, that somehow a rover sends a message when the radio link is lost. Since the rover tells the Kirk receiving location that the link has been lost, clearly the Kirk receiving location does not have the step or means for determining the computing location at which an error occurred.

A further distinction between the present invention and Kirk is that, while Kirk can only store buffered readings until communication is reestablished, the present invention logs system activities and can further start filtering the

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logged system activities to determine corrective action, and can start tracing/mapping from the location of event detection to identify other affected computing locations. All that the Kirk system can do is record previously collected readings at a different rate.

Finally, with respect to the detection and response to a stop event, the Kirk patent expressly teaches that there is a predefined window "around" an event, such that readings are stored at the desired rate from a predefined period before a detected event to a predetermined period after a detected event. Kirk does not monitor for or detect a stop event.

Applicants respectfully assert that the Kirk patent does not anticipate the invention as claimed. Kirk does not teach a method or system having a plurality of computing locations with at least one message logger and at least one trace logger, does not teach means or steps to detect an event trigger which comprises a message level error indicative of an error condition at a computing location, does not teach means or steps to activate logging in at least one computing location in response to trigger event detection, does not teach means or steps to log system activities at a trace logger, and does not teach detecting a

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stop event and stopping logging upon detection of a stop event. It is well established under U. S. Patent Law that, for a reference to anticipate claim language under 35 USC 102, that reference must teach each and every claim feature. Since the Kirk patent does not teach the steps or means as claimed, it cannot be maintained that Kirk anticipates the invention as set forth in the independent claims, Claims 1, 12, or 21, or the claims which depend therefrom and add further limitations thereto.

Applicants further note that the additionally-cited Duggan patent does not provide the teachings which are missing from the Kirk patent. In rejecting Claims 6-9, 11, and 17-19, the Examiner acknowledges that the Kirk patent does not teach or suggest identifying affected subsystems and activating logging at affected subsystems. The Examiner has cited the Duggan patent in combination with the Kirk patent teachings.

The Duggan patent is directed to computer program testing and has specifically been cited for its teachings regarding logging session data during testing for later review (see: e.g., the definitions of the Summary log option, the Session log option, and the Event log option, as well as steps 48 and 124 of the process flow detailed in

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Fig. 11). Under Duggan, various test scripts can be created with test parameters including logging at the test sites.

Applicants reiterate that the Duggan patent neither teaches nor suggests detecting an event trigger which comprises a message level error at a distributed computing location, activating logging for at least one computing location in response to trigger event detection, or logging system activities until detection of a stop event. As such, the Duggan patent does not provide those teachings which are missing from the Kirk patent. Moreover, the combination of teachings of Kirk and Duggan do not obviate the invention as claimed in the dependent claims, Claims 6-9, 11, and 17-19. While Duggan does teach logging of session data and events occurring during test sessions, Duggan does not teach or suggest the logging of affected subsystems pursuant to detection of a message level error indicative of an error at a computing location of a distributed computing system (Claims 6-7 and 17-19; Claims 8-9 having been canceled). Rather, Duggan logs entries and events for individual testing sessions in order to evaluate the test scripts which have been run during the sessions. Duggan does not identify subsystems which are affected by detected error events, and does not commence logging at identified affected subsystems.

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Rather, under Duggan, a test script generator (i.e., testing programmer) preselects log options for individual test runs and logging is conducted accordingly. The Duggan logging is not done dynamically in response to detection of events. It is done based on preselected logging options. Moreover, it is not done on dynamically identified subsystems, but is done for each test session based on the preselected logging options. Accordingly, Applicants do not believe that the combination of Kirk and Duggan would obviate Claims 6-7 and 17-19 which recite identifying affected subsystems and logging at affected subsystems.

While the Duggan system does use predefined logging information (i.e., the preselected logging options), Duggan does not access predefined temporary logging information for use in logging which is commenced upon event detection, as set forth in the pending claims (Claim 11, and not Claim 7 as contended by the Examiner on page 8). Accordingly, Applicants believe that the combination of teachings of Kirk and Duggan would not obviate Claim 11.

Finally, Applicants respectfully argue that the Duggan patent does not teach mapping to determine the subsystem at which a trigger event occurred. The cited Duggan passage from Col. 8, lines 55-62 teach that Duggan can map to

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determine locations at which testing sessions are conducted. Duggan does not conduct a mapping step to determine where a detected trigger event occurred. Accordingly, Claims 17-19 are not obviated by the combined teachings of Kirk and Duggan.

The Examiner has stated, in the **Response to Arguments** section, that Duggan discloses identifying subsystems because Duggan "specifies the session number, the date and time of the command execution...consists of a port number, a network address, and a directory path for storage of log files", citing Col. 8, lines 30-62). Applicants respectfully assert that identifying a location and path for storage of log files may identify a subsystem which is affected by the response to an error event but it is not the same as or suggestive of identifying subsystems that have been affected by the error event. The Examiner further cites Duggan teachings from Col. 14, lines 48-63 regarding commands of the command module; however, Applicants do not see how those teachings are being applied against claim language reciting identifying affected subsystems, mapping to identify affected subsystems, and logging at affected subsystems. Accordingly, Applicants conclude that the Duggan patent does not provide those teachings which are

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missing from the Kirk patent and that the combination of teachings do not obviate the invention as claimed.

Based on the foregoing amendments and remarks, Applicants respectfully request entry of the amendments, reconsideration of the amended claim language in light of the remarks, withdrawal of the rejections, and allowance of the claims.

Respectfully submitted,

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